Amendments to the Claims

Please cancel claims 12-21 and 32-41 without prejudice. Please add new claims 42-62 as shown below in the Listing of Claims.

Listing of Claims

1-41. Cancelled.

42. (New) A method for preparing an α-hydroxycarboxylic acid, comprising:

a) in a single reaction mixture, concurrently:

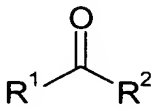
i) producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;

ii) converting said cyanohydrin to an α-hydroxycarboxylic acid with a nitrilase;

wherein said oxynitrilase and/or said nitrilase react in an enantioselective manner; and

b) isolating said α-hydroxycarboxylic amide from said reaction mixture.

43. (New) The method of claim 42, wherein said aldehyde or ketone is a compound of Formula I:



(I)

wherein:

R^1 is $(C_1\text{-}C_8)$-alkyl, $(C_2\text{-}C_8)$-alkenyl, $(C_2\text{-}C_8)$-alkinyl, $(C_1\text{-}C_8)$-alkoxyalkyl $(C_3\text{-}C_8)$-cycloalkyl, $(C_6\text{-}C_{18})$-aryl, $(C_7\text{-}C_{19})$-aralkyl, $(C_3\text{-}C_{18})$-heteroaryl, $(C_4\text{-}C_{19})$-hetero-aralkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_8)$-cycloalkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_6\text{-}C_{18})$-aryl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_{18})$-heteroaryl and

R^2 is H, or R^1.

44. (New) The method of claim 43, wherein R^2 is H.

45. (New) The method of claim 43, wherein R^1 is a (C_1-C_8)-alkyl.

46. (New) The method of claim 43, wherein R^1 is a (C_6-C_{18})-aryl.

47. (New) The method of claim 43, wherein R^1 is a (C_7-C_{19})-aralkyl or a (C_3-C_{18})-heteroaryl.

48. (New) The method of claim 43, wherein:

a) said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: Sorghum bicolor, Hevea brasiliensis, and Mannihot esculenta; and

b) said nitrilase is from an organism selected from either a strain of Rhodococcus or Alcaligenes faecalis.

49. (New) A method for preparing an α-hydroxycarboxylic amide, comprising:

a) in a single reaction mixture, concurrently:

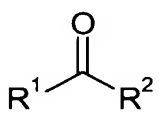
i) producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;

ii) converting said cyanohydrin to said α-hydroxycarboxylic amide with a nitrile hydratase;

wherein said oxynitrilase and/or said nitrile hydratase react in an enantioselective manner;

b) isolating said α-hydroxycarboxylic amide from said reaction mixture.

50. (New) The method of claim 49, wherein said aldehyde or ketone is a compound of Formula I:



(I)

wherein:

R^1 is $(C_1\text{-}C_8)$-alkyl, $(C_2\text{-}C_8)$-alkenyl, $(C_2\text{-}C_8)$-alkinyl, $(C_1\text{-}C_8)$-alkoxyalkyl $(C_3\text{-}C_8)$-cycloalkyl, $(C_6\text{-}C_{18})$-aryl, $(C_7\text{-}C_{19})$-aralkyl, $(C_3\text{-}C_{18})$-heteroaryl, $(C_4\text{-}C_{19})$-heteroaralkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_8)$-cycloalkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_6\text{-}C_{18})$-aryl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_{18})$-heteroaryl and

R^2 is H, or R^1.

51. (New) The method of claim 50, wherein R^2 is H.

52. (New) The method of claim 50, wherein R^1 is a $(C_1\text{-}C_8)$-alkyl.

53. (New) The method of claim 50, wherein R^1 is a $(C_6\text{-}C_{18})$-aryl.

54. (New) The method of claim 50, wherein R^1 is a $(C_7\text{-}C_{19})$-aralkyl or a $(C_3\text{-}C_{18})$-heteroaryl.

55. (New) The method of claim 50, wherein:

a) said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: Sorghum bicolor, Hevea brasiliensis, and Mannihot esculenta; and

b) said nitrile hydratase is from an organism selected from the group consisting of: Rhodococcus spec., Rhodococcus rhodochrous and Rhodococcus erythropolis.

56. (New) A method for preparing an α-hydroxycarboxylic acid, comprising:

a) in a single reaction mixture, concurrently:

i) producing a cyanohydrin by combining an aldehyde or ketone with a cyanide donor in the presence of an oxynitrilase;

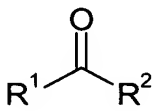
ii) converting said cyanohydrin to an α-hydroxycarboxylic amide with a nitrile hydratase;

iii) converting said α-hydroxycarboxylic amide to said α-hydroxycarboxylic acid with an amidase;

wherein at least one of said oxynitrilase, said nitrile hydratase or said amidase react in an enantioselective manner;

b) isolating said α-hydroxycarboxylic acid from said reaction mixture.

57. (New) The method of claim 56, wherein said aldehyde or ketone is a compound of Formula I:



(I)

wherein:

R^1 is $(C_1\text{-}C_8)$-alkyl, $(C_2\text{-}C_8)$-alkenyl, $(C_2\text{-}C_8)$-alkinyl, $(C_1\text{-}C_8)$-alkoxyalkyl $(C_3\text{-}C_8)$-cycloalkyl, $(C_6\text{-}C_{18})$-aryl, $(C_7\text{-}C_{19})$-aralkyl, $(C_3\text{-}C_{18})$-heteroaryl, $(C_4\text{-}C_{19})$-heteroaralkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_8)$-cycloalkyl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_6\text{-}C_{18})$-aryl, $((C_1\text{-}C_8)\text{-alkyl})_{1\text{-}3}\text{-}(C_3\text{-}C_{18})$-heteroaryl and

R^2 is H, or R^1.

58. (New) The method of claim 57, wherein R^2 is H.

59. (New) The method of claim 57, wherein R^1 is a $(C_1\text{-}C_8)$-alkyl.

60. (New) The method of claim 57, wherein R^1 is a $(C_6\text{-}C_{18})$-aryl.

61. (New) The method of claim 57, wherein R^1 is a $(C_7\text{-}C_{19})$-aralkyl or a $(C_3\text{-}C_{18})$-heteroaryl.

62. (New) The method of claim 57, wherein:

a) said oxynitrilase is isolated from almond kernels or from a species selected from the group consisting of: Sorghum bicolor, Hevea brasiliensis, and Mannihot esculenta; and

b) said nitrile hydratase is from an organism selected from the group consisting of: Rhodococcus spec., Rhodococcus rhodochrous and Rhodococcus erythropolis.